

REMARKS

The drawings are objected to for missing element. The specification is objected to for informalities. Claim 23 is objected to for failing to further limit the structure of the claim. Claim 30 is objected to for improper dependency, and claims 31-41 inherent this deficiency. Claims 21-25, and 30-41 stand rejected under 35 USC 102 as being anticipated by Moore (3806274). Claims 26-29 stand rejected as being unpatentable over Moore (3806274) in view of Bregman (6382907). Claim 23 is canceled herein.

Applicant's Response to Drawing Objection

Applicant submits herewith amended drawing sheets 2/5 and 5/5 to include the missing reference sign. Applicant respectfully requests the drawing objection be withdrawn.

Applicant's Response to Specification Objection

Applicant has amended paragraphs 38, 39, and 42 as supported at least by figures 2 and 5, and paragraphs 34-36. Applicant respectfully requests the specification objection be withdrawn.

Applicant's Response to Claim Objection

Claim 23 has been canceled herein.

Applicant's Response to 35 USC 112 Rejection

Applicant has corrected the dependence of claim 30. Applicant respectfully requests the 35 USC 112 rejection of claim 30, and claims 31-41, which inherit this deficiency, be withdrawn.

Applicant's Response to 35 USC 102 Rejection

Applicant has amended claim 22 as supported at least in part by paragraph 37 and the figures. Applicant now claims "wherein the first rib extensions are **directly connected** to the second rib extensions where they intersect." Moore teaches an insert 14 (figure 2) disposed between the helical fins 16 that extend from blade wall. Thus, where the fins from one wall intersect the fins from another wall they cannot be directly connected because the insert is between them, and therefore Moore does not teach this limitation of Applicant's claim 23.

Further, Applicant also now claims “wherein each common outlet channel directs **all** the cooling fluid from the respective first and second channels out the trailing edge.” Moore teaches channels that direct air flow along the insert until it reaches the leading or trailing edge, where it passes “round the leading or trailing edge of the insert, and then **continuing** obliquely up the other side of the insert.” (Paragraph 1, lines 60-62). Thus, only a portion of the air from the first channel is directed toward the trailing edge. The remainder of the air is directed to the second channel, and the second channel directs the remaining air **away from** the trailing edge, and back toward the leading edge. Therefore, Moore does not teach or suggest this limitation of Applicant’s claim 23 either. Applicant respectfully requests the 35 USC 102 rejection of claim 22, and claims 24-24, and 30-41, which depend from and include all the limitations of claim 22, based on Moore, be withdrawn.

Applicant’s Response to 35 USC 103 Rejection

Claims 26-29 depend from and include all the limitations of claim 22. As asserted above, Moore does not teach, all the limitations of claim 22. Moore does not suggest the missing limitations either, for Moore teaches away from Applicant’s invention because Moore teaches: “reducing the width of the passages. This maintains the airflow velocity **substantially constant**.” (Column 2, lines 4-5). In claim 22 Applicant claims “a common outlet channel having a reduced flow area at the trailing edge due the increased rib thickness of the first and second ribs.” This creates “**high velocities** at the outlet 18.” (Substitute specification, paragraph 39). Thus, because the channel in Moore directs some of the cooling fluid away from the trailing edge, the channel is narrowed to **maintain** the same coolant flow, whereas Applicant narrows the common outlet channel in order to **increase** coolant flow velocity and associated heat transfer.

Moore thus teaches away from the common outlet channel Applicant claims, because the Moore common outlet channel directs a portion of the cooling fluid away from the trailing edge and toward the leading edge. As a result, while Moore teaches a narrowing, it does so to maintain a substantially constant coolant flow, while Applicant narrows for the opposite reason, to increase coolant flow velocity. Bregman does not teach or suggest the claim 22 limitations that Moore does teach or suggest, and thus claim 22 survives Moore and Bregman. Therefore, claims 26-29 survive application of Moore and Bregman.

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Conclusion

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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